Mini IP Dome Camera User’s Manual

Version 1.1.0

Welcome

Thank you for purchasing our IP camera!
This user's manual is designed to be a reference tool for your system.
Please read the following safeguard and warnings carefully before you use this series product!
Please keep this user's manual well for future reference!

Important Safeguards and Warnings

1．Electrical safety

All installation and operation here should conform to your local electrical safety codes.
The power shall conform to the requirement in the SELV (Safety Extra Low Voltage) and the Limited power source is rated 12V DC in the IEC60950-1.
We assume no liability or responsibility for all the fires or electrical shock caused by improper handling or installation.
We are not liable for any problems caused by unauthorized modification or attempted repair.

2．Transportation security

Heavy stress, violent vibration or water splash are not allowed during transportation, storage and installation.

3．Installation

Do not apply power to the camera before completing installation.
Please install the proper power cut-off device during the installation connection.
Always follow the instruction guide the manufacturer recommended.

4．Qualified engineers needed

All the examination and repair work should be done by the qualified service engineers.
We are not liable for any problems caused by unauthorized modifications or attempted repair.

5．Environment

This series IP camera should be installed in a cool, dry place away from direct sunlight, inflammable, explosive substances and etc.
Please keep it away from the electromagnetic radiation object and environment.
Please make sure the CCD (CMOS) component is out of the radiation of the laser beam device. Otherwise it may result in CCD (CMOS) optical component damage.
Please keep the sound ventilation.
Do not allow the water and other liquid falling into the camera.
Thunder-proof device is recommended to be adopted to better prevent thunder.
The grounding holes of the product are recommended to be grounded to further enhance the reliability of the camera.

6. Daily Maintenance

Please shut down the device and then unplug the power cable before you begin daily maintenance work.
Do not touch the CCD (CMOS) optic component. You can use the blower to clean the dust on the lens surface.

Always use the dry soft cloth to clean the device. If there is too much dust, please use the water to dilute the mild detergent first and then use it to clean the device. Finally use the dry cloth to clean the device.
Please put the dustproof cap to protect the CCD (CMOS) component when you do not use the camera.

7. Accessories

Be sure to use all the accessories recommended by manufacturer.
Before installation, please open the package and check all the components are included.
Contact your local retailer ASAP if something is broken in your package.

Accessory Name	Amount
IPC Unit	1
Accessories bag	1
Quick Start Guide	1
CD	1

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1 General Introduction

1.1 Overview

This series IP camera integrates the traditional camera and network video technology. It adopts audio and video data collection, transmission together. It can connect to the network directly without any auxiliary device.

This series IPC uses standard H.264 video compression technology and MJPEG audio compression technology, which maximally guarantee the audio and video quality.

This series IPC enclosure has the strong resistance capacity, which can guarantee the proper work performance under heavy strike. It supports real-time monitor and motion detect function.

It can be used alone or used in a network area. When it is used lonely, you can connect it to the network and then use a network client-end. Due to its multiple functions and various uses, this series IPC is widely used in many environments such office, bank, road monitor and etc.

1.2 Features

User Management	● Different user rights for each group, one user belongs to one group. ● The user right shall not exceed the group right.
Storage Function	● Support central server backup function in accordance with your configuration and setup in schedule setting ● Support record via Web and the recorded file are storage in the client-end PC. ● Support built-in Micro SD card. Support short-time storage when encounter disconnection. (**For some series only.**) ● Support network storage such as FTP.
Alarm Function	● Real-time respond to video detect as user pre-defined activation setup and exert corresponding message in screen and audio prompt(allow user to pre-record audio file) ● Real-time video detect: motion detect, camera masking. ● Can generate an alarm when network abnormal, SD card abnormal event occurred.
Network Monitor	● IPC supports one-channel video data transmit to network terminal and then decode. Delay is within 270ms (network bandwidth support needed) ● Max supports 20 connections. ● Adopt the following audio and video transmission protocol: HTTP, TCP, UDP, RTP/RTCP, RTSP and etc. ● Support web access, widely used in WAN.
Network Management	● Realize IPC configuration and management via Ethernet. ● Support device management via web or client-end. ● Support various network protocols.
Power	● External power adapter DC12V ● Support PoE.
Assistant Function	● Log function ● Support PAL/NTSC ● Support system resource information and running status real-time display. ● Day/Night mode auto switch. ● Backlight compensation: screen auto split to realize backlight compensation to adjust the bright. ● Support electronic shutter and gain setup.

	● Support video watermark function to avoid vicious video modification.

1.3 Specifications

1.3.1 Performance

Please refer to the following sheet for IPC performance specification.

Model / Parameter		IPC-HDB3200C Series	IPC-HD2100 Series	IPC-HDB3100C Series
System	Main Processor	TI Davinci high performance DSP		
	OS	Embedded LINUX		
	System Resources	Support real-time network, local record, and remote operation at the same time.		
	User Interface	Remote operation interface such as WEB, DSS, PSS		
	System Status	SD card status, bit stream statistics, log, and software version.		
Video Parameter	Image Sensor	1/2.9-inch CMOS	1/3-inch COMS	1/3-inch COMS
	Pixel	1920(H)*1080(V)	1280(H)*960(V)	1280(H)*960(V)
	Day/Night Mode	Support day/night mode switch.		
	Gain Control	Fixed/Auto		
	White Balance	Manual/Auto		
	BLC	On/off		
	Electronic Shutter	Manual/Auto PAL: It ranges from 1/3 to 1/10000. NTSC: It ranges from 1/4 to 1/10000.		
	Video Compression Standard	H264/JPEG/MJPEG		
	Video Frame Rate	PAL: Main stream （1920*1080@25fps ） extra stream （704*576@25fps） NTSC： Main stream (1920*1080@30fps) Extra stream (704*480@30fps)	PAL: Main stream （1280*960@15fps） extra stream （704*576@15fps） Main stream （1280*720@25fps） extra stream （704*576@25fps） NTSC： Main stream (1280*960@15fps) Extra stream (704*480@15fps) Main stream (1280*720@30fps) Extra stream (704*480@30fps)	PAL: Main stream （1280*960@25fps） Main stream (1280*720@25fps) extra stream （704*576@25fps） NTSC： Main stream (1280*960@30fps) Main stream (1280*720@30fps) Extra stream (704*480@30fps)
	Video Bit Rate	H.264: 56Kbps-8192Kbps. MJPEG: 128-20480Kbps. The bit rate is adjustable. Support customized	H.264: 56Kbps-4096Kbps. MJPEG: 128-8192Kbps. The bit rate is adjustable. Support customized setup.	

		setup.		
	Video Flip	Support mirror function. Support flip function.		
	Snapshot	Max 1f/s snapshot. File extension name is JPEG.		
	Privacy Mask	Supports max 4 privacy mask zones		
	Video Setup	Support parameter setup such as bright, contrast.		
	Video Information	Channel title, time title, motion detect, privacy mask.		
	Lens	2.8mm/3.6mm/6mm/8mm MP		
	Lens Interface	M12. Lens is the default accessories		
Video	**Motion Detect**	396 (18*22) detection zones; sensitivity level ranges from 1 to 6 (The 6th level has the highest sensitivity) Activation event: Video storage, image snapshot, log, email SMTP function and etc.		
	Video Loss	Activation event: Video storage, image snapshot, log, email SMTP function and etc.		
Alarm Input		2-channel input，1-channel output		
Record and Backup	**Record Priority**	Manual> Video detect>Schedule		
	Local Storage	Support Micro SD card storage	N/A	N/A
Network	**Wire Network**	1-channel wire Ethernet port, 10/100 Base-T Ethernet		
	Network Protocol	Standard HTTP, TCP/IP, IPv4/IPv6, ARP, IGMP, ICMP, RTSP, RTP, UDP, SMTP, FTP, DHCP, DNS, DDNS, PPPOE, UPNP, NTP, Bonjour, SNMP.		
	Platform interface Standard	ONVIF		
	Remote Operation	Monitor, system setup, log information, maintenance , upgrade and etc		
AUX Interf	**Reset**	Built-in RESET button		
General Parameter	**Power**	Support DC12V and PoE		
	Power Consumption	2.5W MAX	1.5W MAX	2W MAX
	Working Temperature	-10℃~+60℃	-10℃~+50℃	-10℃~+60℃
	Working Humidify	10%~90%		
	Dimensions(mm)	¢110×54		
	Weight	0.25Kg		
	Installation	Installed in the places such as wall or the ceiling		

1.3.2 Factory Default Setup

Please refer to the following sheet for factory default setup information.

Function Setup Type		Item			Default setup		
					IPC-HDB3200C Series	IPC-HD2100 Series	IPC-HDB3100C Series
Camera Setup	Conditions	Brightness			50		
		Contrast			50		
		Hue			50		
		Saturation			50		
		Gain mode			Auto		
		Gain limit			80		
		Exposure mode			Auto		
		Scene mode			Auto		
		Day/night mode			Auto		
		BLC			Off		
		Mirror			Disable		
		Flip			Disable		
	Video	Video bit stream	Main stream	Bit stream type	General		
				Encode mode	H.264B		
				Resolution	1080P（1920*1080）	720P（1280*720）	720P（1280*720）
				Frame rate（FPS）	PAL: 25 NTSC:30		
				Bit stream type	CBR		
				Reference bit rate	3584-8192 Kb/S		
				Bit rate	8192		
				I frame interval	50		
				Watermark settings	Enable		
				Watermark character	DigitalCCTV		
			Extra stream	Enable	Enable		
				Bit stream type	General		
				Encode mode	H.264B		
				Resolution	CIF(352×288/352×240)		
				Frame rate（FPS）	PAL: 25 NTSC:30		
				Bit rate type	CBR		
				Reference bit rate	192-1024Kb/S		

Function Setup Type	Item		Default setup		
			IPC-HDB3200C Series	IPC-HD2100 Series	IPC-HDB3100C Series
		Bit rate	1024		
		I frame interval	50		
	Snapshot	Snap type	General snap		
		Image size	1080P （1920*1080）	720P （1280*720）	720P （1280*720）
		Quality	Better		
		Interval	1picture/s		
	Overlay	Privacy mask	Disable		
		Channel title	Enable		
		Time title	Enable		
	Path	Snapshot path	C:\PictureDownload		
		Record path	C:\RecordDownload		
Network setup	TCP/IP	Host name	IPC		
		Ethernet card	Wire(Default)		
		Mode	Static		
		MAC address	Depends on the device		
		IP version	IPV4		
		IP address	192.168.1.168		
		Subnet mask	255.255.255.0		
		Default gateway	192.168.1.1		
		Preferred DNS	8.8.8.8		
		Alternate DNS	8.8.8.8		
		Enable ARP/Pingto to set IP address service	Enable		
	Connection	Max connection	10		
		TCP port	37777		
		UDP port	37778		
		HTTP port	80		
		RTSP port	554		

Function Setup Type	Item		Default setup		
			IPC-HDB3200C Series	IPC-HD2100 Series	IPC-HDB3100C Series
	PPPoE	Enable	Disable		
		User name	N/A		
		Password	N/A		
	DDNS	Server type	Disable, CN99 DDNS		
		Server IP	none		
		Port	80		
		Domain name	none		
		User name	none		
		Password	N/A		
		Update period	5m		
	IP filter	Trusted sites	Disable		
	SMTP（email）	SMTP server	none		
		Port	25		
		Anonymity	Disable		
		User name	anonymity		
		Password	N/A		
		Sender	none		
		Authentication (Encrypt mode)	N/A		
		Title (Subject)	IPC Message		
		Main Receiver	N/A		
		Interval	0s		
		Health email	Disable ， interval=60m		
	UPnP	Enable UPnP	Disable		
	SNMP	SNMP v1	Disable		
		SNMP v2	Disable		
		SNMP port	161		
		Read community	public		
		Write community	private		
		Trap address	N/A		
		Trap port	162		
	Bonjour	Enable	Enable		

Function Setup Type	Item			Default setup		
				IPC-HDB3200C Series	IPC-HD2100 Series	IPC-HDB3100C Series
			Server name	“Device name+SN”. Depends on the device.		
	Multicast		Multicast address	239.255.42.42		
			Port	36666		
	Auto register		Enable	Disable		
			SN	1		
			Server IP	0.0.0.0		
			Port	7000		
			Sub-device ID	none		
	WIFI		On(Enable)	Enable		
	QoS		Real-time monitor	0		
			Command	0		
Event management	Video detect	Motion detect	Enable	Disable		
			Anti-dither	5 seconds		
			Sensitivity	3		
			Record Channel	Enable		
			Record Delay	10 seconds		
			Send email	Disable		
			Snapshot	Disable		
		Video masking (Camera)	Enable	Disable		
			Record Channel	Enable		
			Record Delay	10 seconds		
			Send email	Disable		
			Snapshot	Disable		
	Abnormity	No SD card	Enable	Disable	These series products have no SD card and do not support these functions.	
			Send email	Disable		
		Capacity warning	Enable	Disable		
			Capacity limit (Space threshold)	10%		
			Send email	Disable		
		Hd	Enable	Disable		

Function Setup Type	Item			Default setup		
				IPC-HDB3200C Series	IPC-HD2100 Series	IPC-HDB3100C Series
			Send email	Disable		
		Disconnection	Enable	Disable		
			Record	Enable		
			Record delay	10s		
		IP conflict	Enable	Disable		
			Record	Enable		
			Record delay	10s		
Storage management	Destination(Storage)	FTP	FTP enable	Disable		
			Server IP	N/A		
			Port	21		
			User name	anonymity		
			Password	N/A		
			Remote storage path	share		
			Emergency storage to local path	Disable		
	Conditions (Record control)		Pack duration	8m		
			Pre-record	5s		
			Disk full	Overwrite		
			Record mode	Auto		
System management	General setup	Local setup	Device name	Device factory SN		
			Language	English		
			Video standard	NTSC	NTSC	
		Date and time	Date format	Y-M-D		
			Time format	24H		
			Time zone	GMT+08:00		
			Current time	Sync PC		
			DST	Disable		
			DTS type	Week		
			Start time	00:00:00 of the first Sunday of the month		
			End time	00:00:00 of the second Monday of the month		

Function Setup Type	Item			Default setup		
				IPC-HDB3200C Series	IPC-HD2100 Series	IPC-HDB3100C Series
			Synchronize with NTP	Disable		
			NTP server	clock.isc.org		
			Port	37		
			Update period	10m		
	Auto maintenance		Auto reboot	Enable		
			Auto delete old files	Disable		

2 Framework

2.1 Dimensions

Please refer to the following figure for the dimension information. The unit is mm. See Figure 2-1 through Figure 2-3.

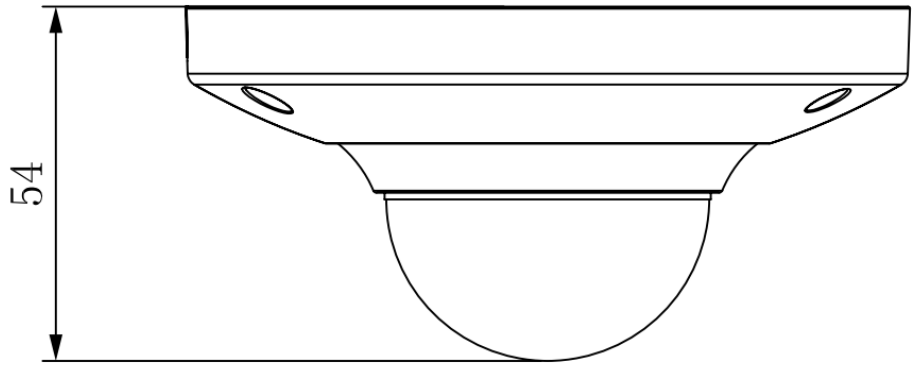

Figure 2-1

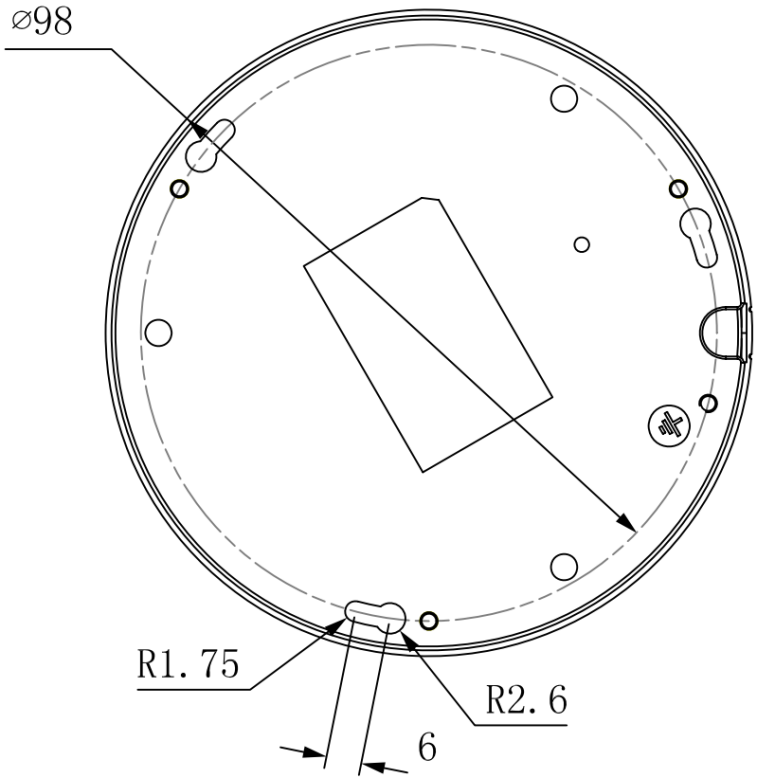

Figure 2-2

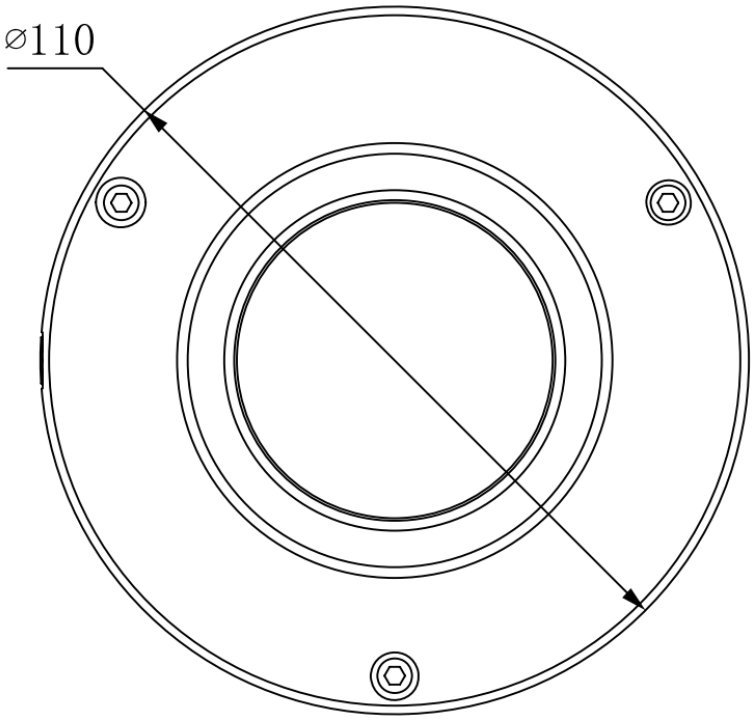

Figure 2-3

2.2 Structure

Please refer to the following figure for detailed information. See Figure 2-4.

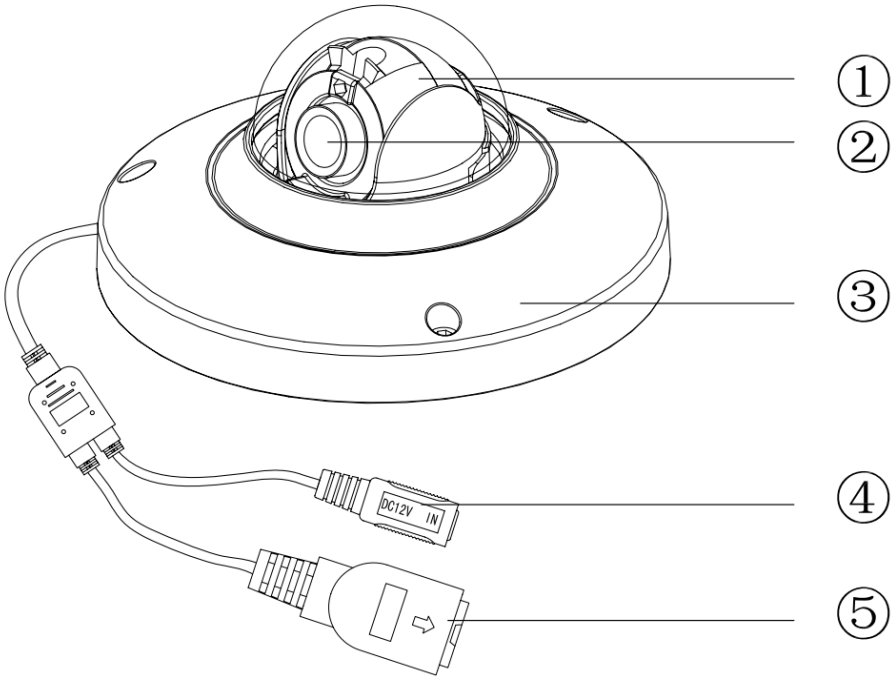

Figure 2-4

Please refer to the following sheet for detailed information.

SN	Name	
1	X-Y-Z rotation module	
2	Device lens	
3	Dome camera enclosure	
SN	Name	Function
4	Power input port	Connect to the DC 12+ power to input the power.
5	Network port	Network data input, output and PoE.

3 Installation

3.1 Device Installation

This series IPC can be put on the table to realize surveillance. Or you can use the bracket or the in-ceiling installation to realize the hang function. Please refer to the steps listed below.

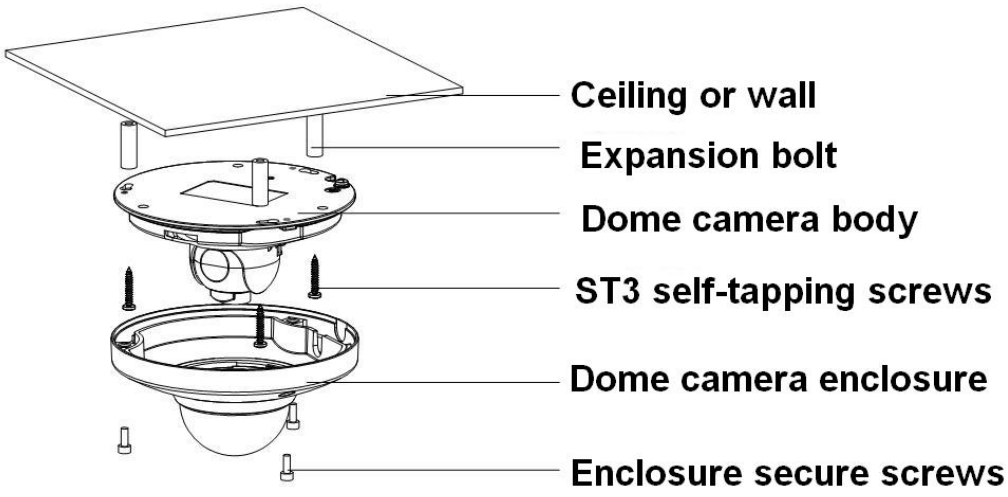

Figure 3-1

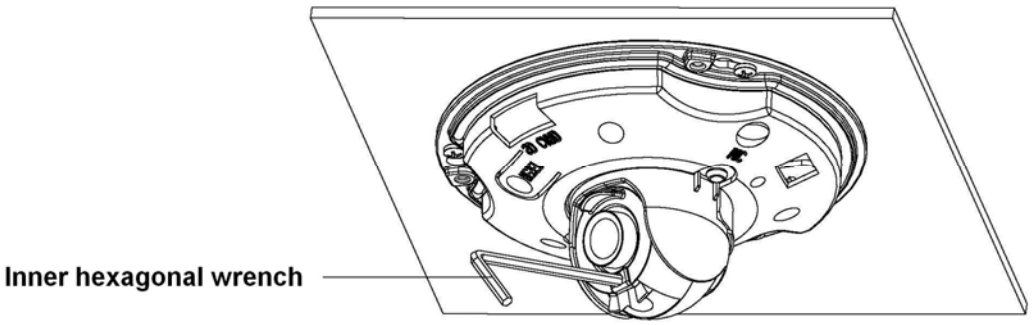

Figure 3-2

Step1

Use the inner hexagonal wrench (provided) to loose the three inner hexagon screws in the dome cover and then open the cover.

Step 2

Please take the installation position map in the accessories bag, and then paste it on the ceiling or the wall according to your monitor area requirements. Draw and then dig three plastic expansion bolts holes in the installation surface and then insert three expansion bolts in the holes. Secure these three bolts firmly. Please dig a “cable exit hole” in the surface according to the installation position map if you want to draw out the cable from the top of the installation surface. You need to use the proper tool to open up the side port of the U-cable channel of the dome camera pedestal if you want to draw out

the cable from the side port of the cable channel when you are installing the device cable. And then you can draw out the cable from the cable channel of the pedestal.

Step 3

Adjust the device installation pedestal to the proper position and then draw the cable through the cable exit you just dug in the ceiling (wall). Line up the TOP direction of the device to the installation position map and then line up the three screw holes in the device pedestal to the three plastic expansion bolt holes in the installation position. Put the three self-tapping screws in the three plastic expansion bolts firmly. Now the dome camera is secure in the installation surface.

Step 4

Loosen the two M3 secure screws of the lens rotation structure (Do not remove, loosen a little bit will be OK.). Use the inner hexagonal wrench to insert them to the inner hexagonal holes and then use the wrench to turn the lens. Adjust the lens to the proper monitor angle and then secure the screws of the lens rotation structure. The lens adjust angle ranges are: flip (0° ~+75°),video pan rotation (-15° ~+15°) , video rotation angle(-15° ~+15°).

Step 5

Line up the dome camera cover to the cable exits and put the cover back. Use the inner hexagonal wrench to secure the three inner hexagonal screws firmly. Now the installation completed.

Note:

The device GND cable can effectively enhance the device reliability. The GND hole is near the cable exit of the back of the enclosure. The GND screw specification is M3. See Figure 3-3.

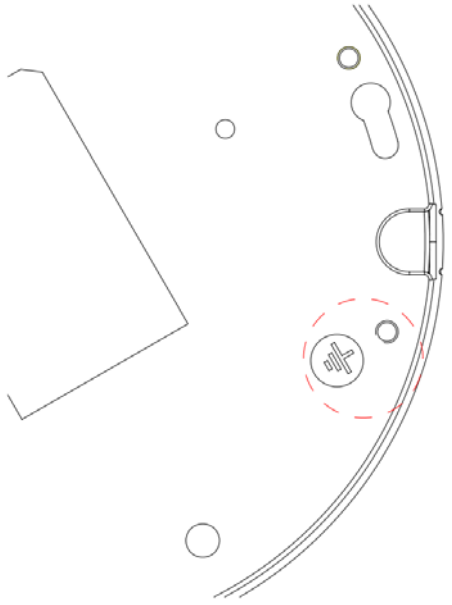

Figure 3-3

3.2 SD Card Installation

Important

Some series product do not support the SD card storage function.

Please shut down the power and then turn off the device before you install the SD card.

Step 1

Please refer to the step 1 in chapter 2.1 to open the device.

Step 2

Find the “SD CARD” indicator in the enclosure. Adjust the SD card to the proper direction and then install. See Figure 3-4.

Step 3

Please refer to the step 5 in chapter 2.1 to complete the installation.

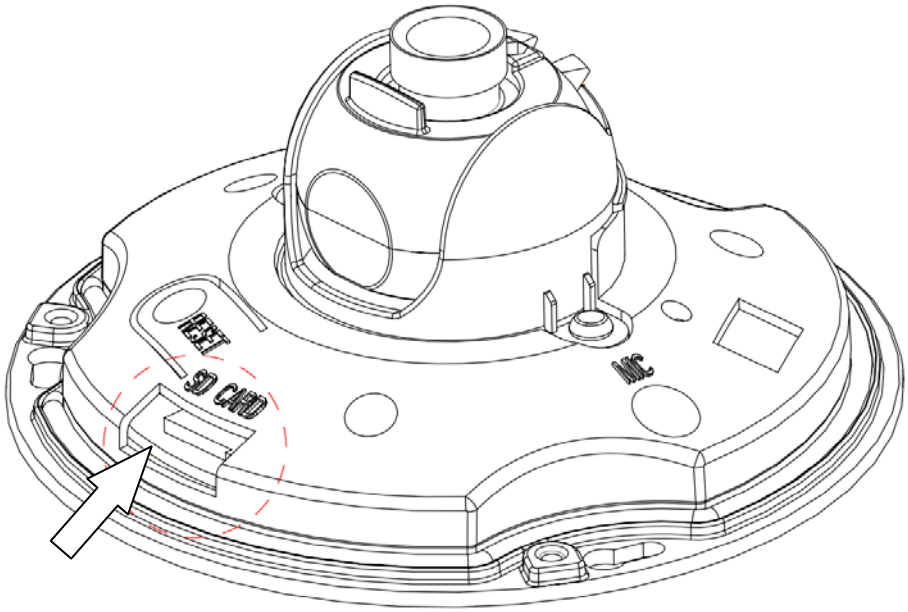

Figure 3-4

4 Quick Configuration Tool

4.1 Overview

Quick configuration tool can search current IP address, modify IP address. At the same time, you can use it to upgrade the device.

Please note the tool only applies to the IP addresses in the same segment.

4.2 Operation

Double click the “ConfigTools.exe’” icon, you can see an interface is shown as in Figure 4-1.

In the device list interface, you can view device IP address, port number, subnet mask, default gateway, MAC address and etc.

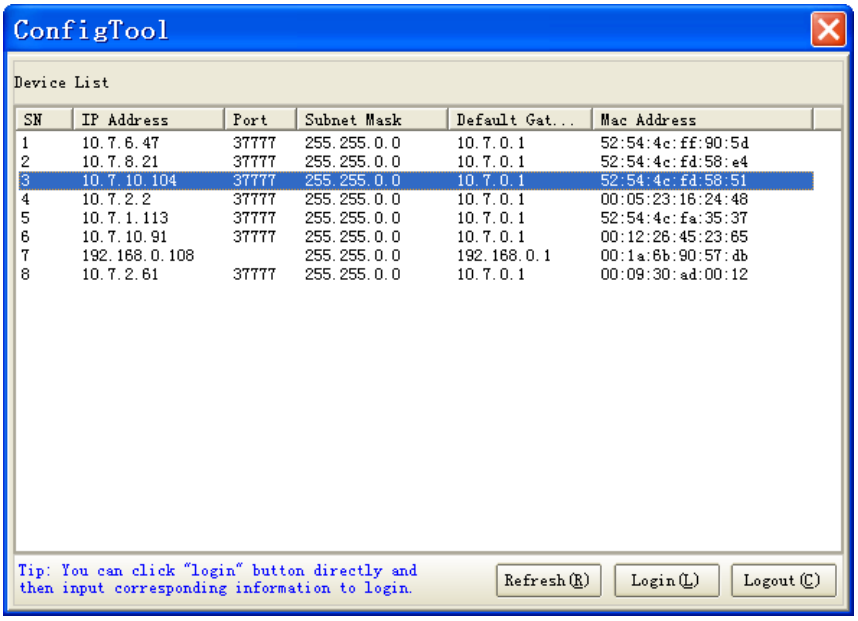

Figure 4-1

Select one IP address and then right click mouse, you can see an interface is shown as in Figure 4-2.

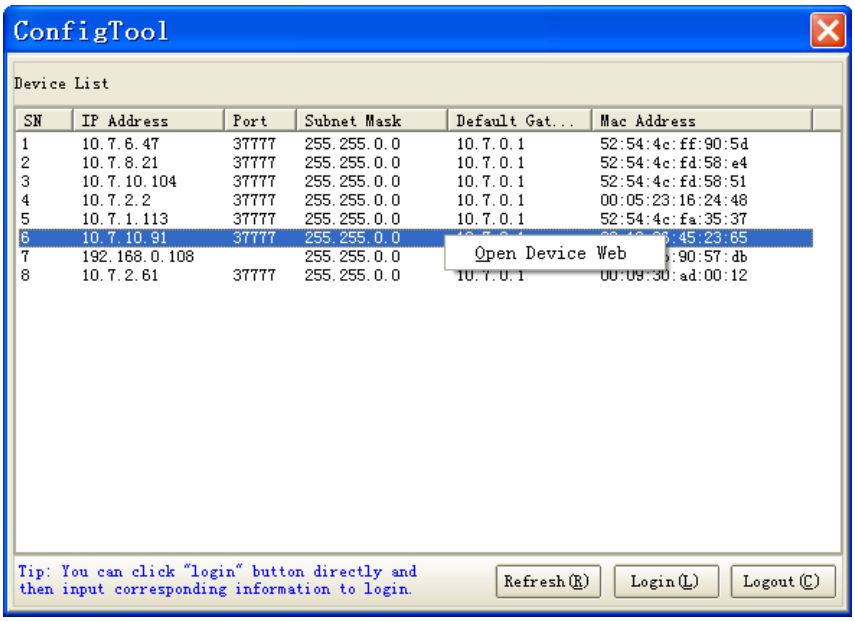

Figure 4-2

Select the “Open Device Web” item; you can go to the corresponding web login interface. See Figure 4-3.

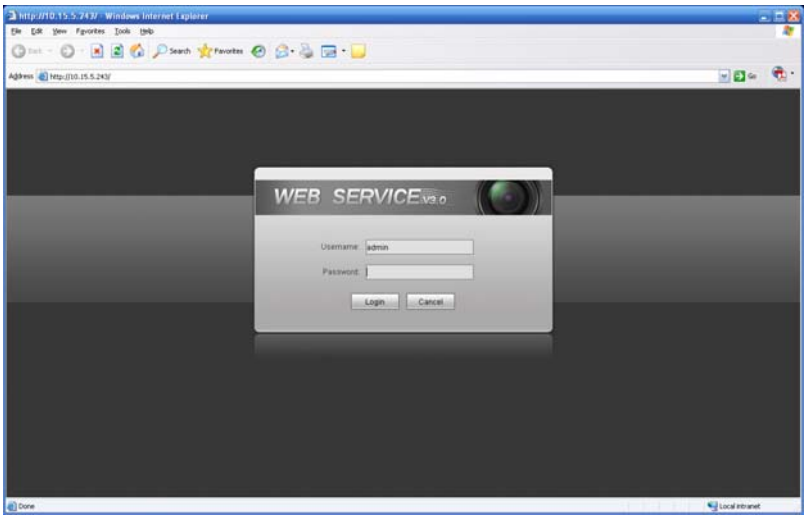

Figure 4-3

If you want to modify the device IP address without logging in the device web interface, you can go to the configuration tool main interface to set.

In the configuration tool search interface (Figure 4-1), please select a device IP address and then double click it to open the login interface. Or you can select an IP address and then click the Login button to go to the login interface. See Figure 4-4.

In Figure 4-4, you can view device IP address, user name, password and port. Please modify the corresponding information to login.

Please note the port information here shall be identical with the port value you set in TCP port in Web Network interface. Otherwise, you can not login the device.

If you are use device background upgrade port 3800 to login, other setups are all invalid.

Figure 4-4

After you logged in, the configuration tool main interface is shown as below. See Figure 4-5.

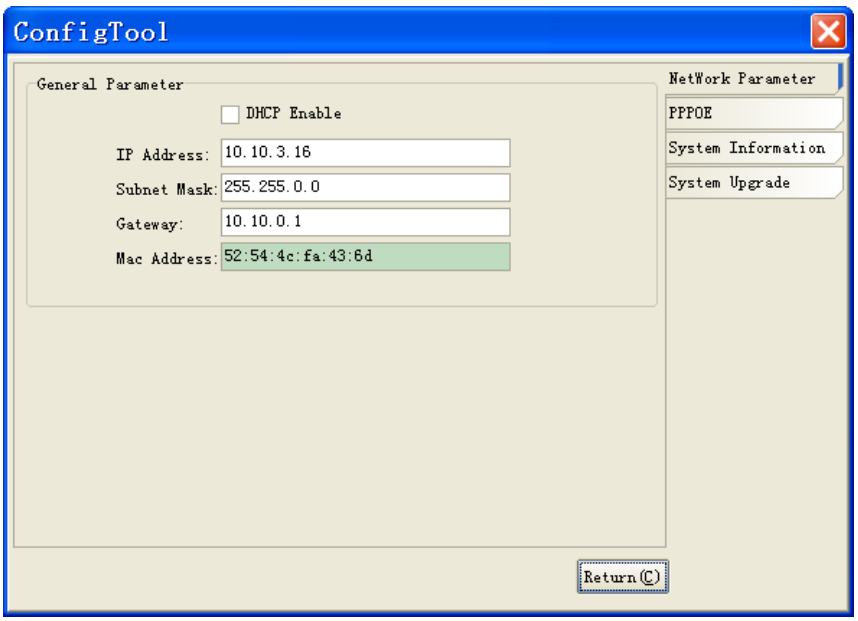
ConfigTool
General Parameter
DHCP Enable
IP Address:
10.10.3.16
Subnet Mask:
255.255.0.0
Gateway:
10.10.0.1
Mac Address:
52:54:4c:fa:43:6d
NetWork Parameter
PPPOE
System Information
System Upgrade
Return(C)

Figure 4-5

5 Web Operation

This series IPC product support the Web access and management via PC.
Web includes several modules includes monitor channel preview, PTZ control, system configuration, alarm and etc.
IP camera factory default setup:

- IP address: 192.168.1.108.
- User name: admin
- Password: admin

5.1 Network Connection

Please follow the steps listed below for network connection.

- Make sure the IPC has connected to the network properly.
- Please set the IP address, subnet mask and gateway of the PC and the IPC respectively. IPC default IP address is 192.168.1.108. Subnet mask is 255.255.255.0. Gateway is 192.168.1.1
- Use order ping ***.***.***.***(* IP camera address) to check connection is OK or not.

5.2 Login and Main Interface

Open IE and input IP camera address in the address bar.
For example, if your camera IP is 192.168.1.108, then please input http:// 192.168.1.108 in IE address bar. See Figure 5-1.

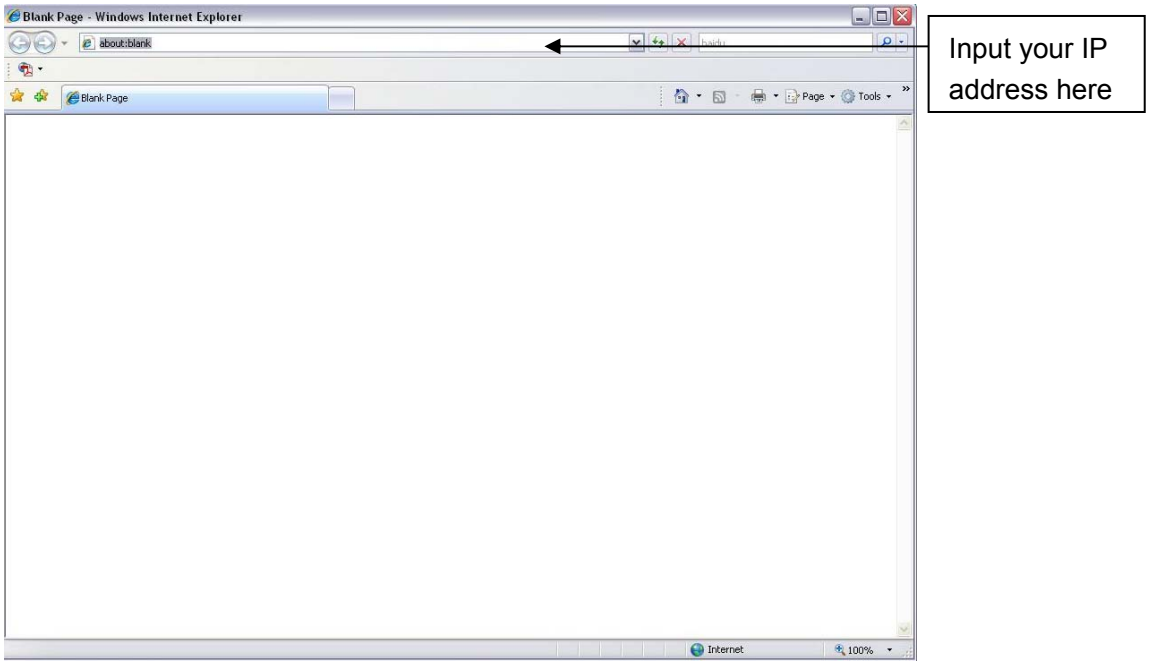

Figure 5-1

The login interface is shown as below. See Figure 5-2.
Please input your user name and password.
Default factory name is admin and password is admin.
Note: For security reasons, please modify your password after you first login.

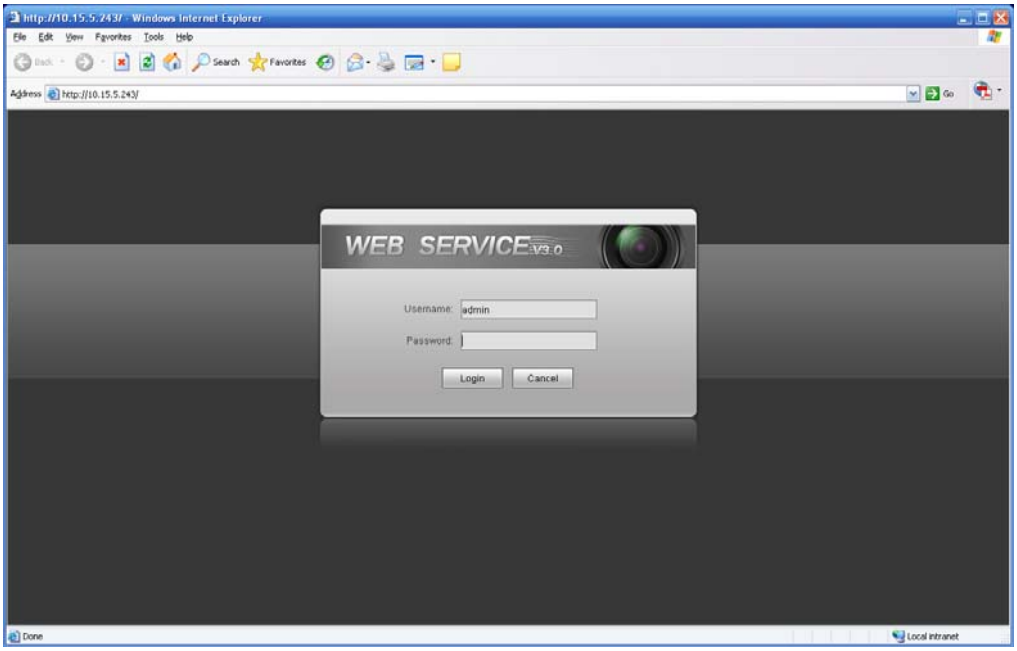

Figure 5-2

If it is your first time to login in, system pops up warning information to ask you whether install control webrec.cab or not after you logged in for one minute. Please click OK button, system can automatically install the control. When system is upgrading, it can overwrite the previous Web too. If you can't download the ActiveX file, please check whether you have installed the plug-in to disable the control download. Or you can lower the IE security level. See Figure 5-3.

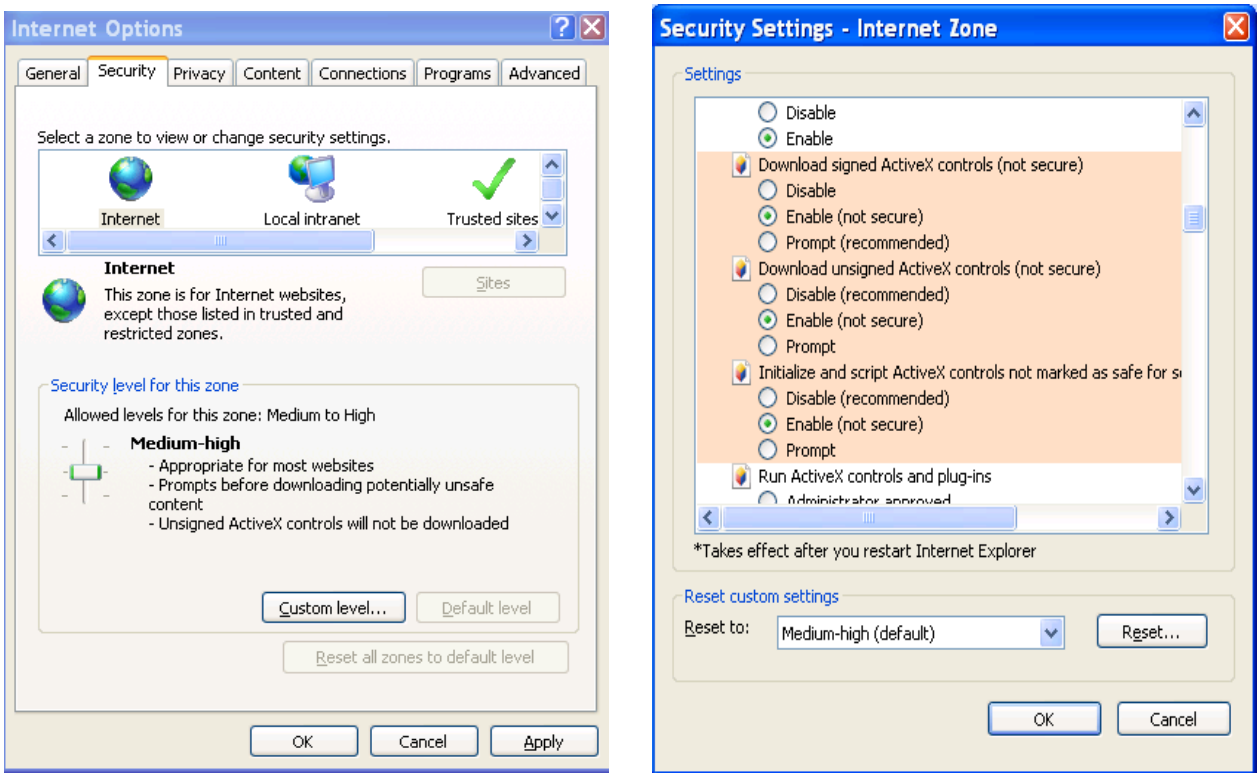

Figure 5-3

After you logged in, you can see the main window. See Figure 5-4.

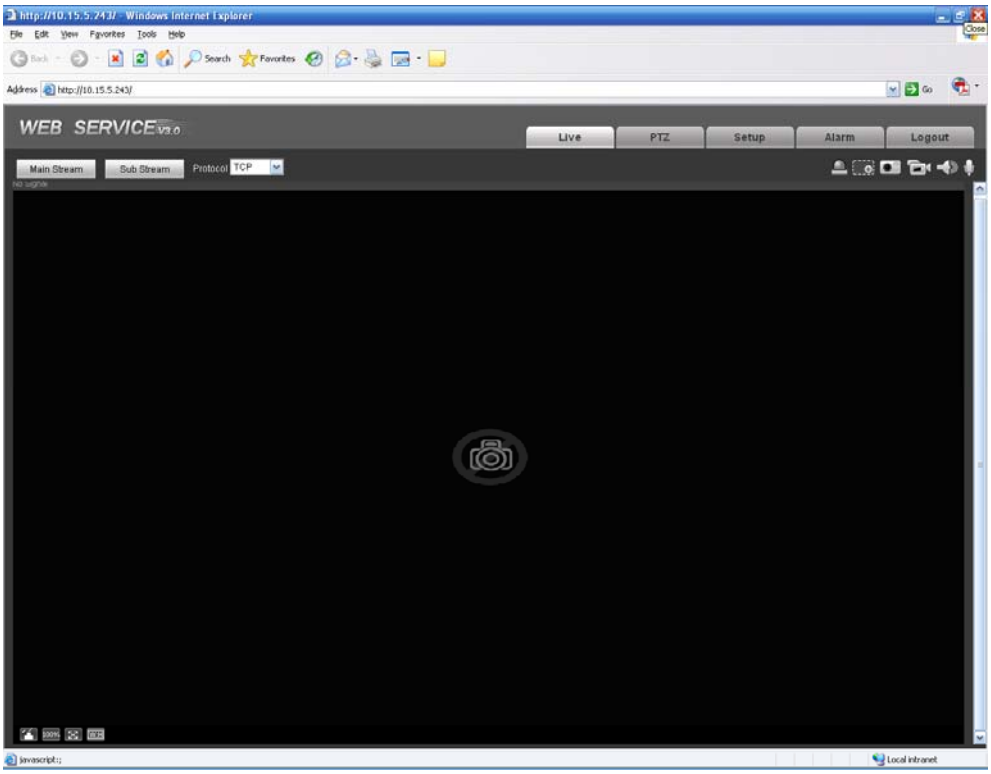

Figure 5-4

Please refer to the Web Operation Manual included in the resource CD for detailed operation instruction.

6 FAQ

Bug	
I can not boot up the device.	Please click RESET button for at least five seconds to restore factory default setup.
SD card write times	Do not set the SD card as the storage media to storage the schedule record file. It may damage the SD card duration.
I can not use the disk as the storage media.	When disk information is shown as hibernation or capacity is 0, please format it first (Via Web).
I can not upgrade the device via network.	When network upgrade operation failed, you can use port 3800 to continue upgrade.
Recommended SD card brand	Kingston 4GB, Kingston 1GB, Kingston 16GB, Transcend 16GB, SanDisk 1G, SanDisk 4G. Usually we recommend the 4GB (or higher) or industry-level high speed card in case the slow speed results in data loss.
Save setup	Please use active device for the audio monitor input, otherwise there is no audio in the client-end.
Power adapter	The power adapter in the accessories bag work temperature ranges from 0℃ to 40℃. It may result in unstable performance if it works in the extremely too hot or too cold environments. In this case, you may need to use the industrial-level power adapter.

Appendix Toxic or Hazardous Materials or Elements

Component Name	Toxic or Hazardous Materials or Elements					
	Pb	Hg	Cd	Cr VI	PBB	PBDE
Circuit Board Component	○	○	○	○	○	○
Device Construction Material	○	○	○	○	○	○
Wire and Cable	○	○	○	○	○	○
Packing Components	○	○	○	○	○	○
Accessories	○	○	○	○	○	○

O: Indicates that the concentration of the hazardous substance in all homogeneous materials in the parts is below the relevant threshold of the SJ/T11363-2006 standard.

X: Indicates that the concentration of the hazardous substance of at least one of all homogeneous materials in the parts is above the relevant threshold of the SJ/T11363-2006 standard. During the environmental-friendly use period (EFUP) period, the toxic or hazardous substance or elements contained in products will not leak or mutate so that the use of these (substances or elements) will not result in any severe environmental pollution, any bodily injury or damage to any assets. The consumer is not authorized to process such kind of substances or elements, please return to the corresponding local authorities to process according to your local government statutes.

Note

- **This user's manual is for reference only. Slight difference may be found in user interface.**
- **All the designs and software here are subject to change without prior written notice.**
- **If there is any uncertainty or controversy, please refer to the final explanation of us.**
- **Please visit our website for more information.**